

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/052,738	SATO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Marlon T Fletcher	2837	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to to the after final amendment filed on 06/16/2004.
2. ☒ The allowed claim(s) is/are 1,3,5,7-10,12 and 13.
3. ☒ The drawings filed on 23 January 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |                                                                                                                     |                                                                                       |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)                                                    | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                 | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance             |
|                                                                                                                     | 9. <input type="checkbox"/> Other _____                                               |

  
 Marlon T Fletcher  
 Primary Examiner  
 Art Unit: 2837

Art-Unit: 2837

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with David Zibelli on 07/07/2004.

The application has been amended as follows:

**In the Claims:**

In claim 1, line 19, after the word motor (2<sup>nd</sup> occurrence), inserted - - , wherein the values  $x_d$  and  $x_q$  being represented by the following equation:

$$\begin{pmatrix} x_d \\ x_q \end{pmatrix} = \begin{pmatrix} R - \omega L_d & -\omega L_q \\ \omega L_d & R - \omega L_q \end{pmatrix} \begin{pmatrix} j d \\ j q \end{pmatrix} + \begin{pmatrix} \omega L_d & 0 \\ 0 & \omega L_q \end{pmatrix} \begin{pmatrix} i_{dr} - i_d \\ i_{qr} - i_q \end{pmatrix}$$

$$\frac{d}{dt} \begin{pmatrix} j d \\ j q \end{pmatrix} = \begin{pmatrix} -\omega & 0 \\ 0 & -\omega \end{pmatrix} \begin{pmatrix} j d \\ j q \end{pmatrix} + \begin{pmatrix} \omega & 0 \\ 0 & \omega \end{pmatrix} \begin{pmatrix} i_{dr} - i_d \\ i_{qr} - i_q \end{pmatrix}$$

wherein  $i_d$  is said d-axis current,

$i_q$  is said q-axis current,

$i_{dr}$  is said commanded d-axis current value,

$i_{qr}$  is said commanded q-axis current value,

$v_d$  is a d-axis voltage applied to the motor,

$v_q$  is a q-axis voltage applied to the motor,

$L_d$  is an inductance of the d-axis of the motor,

$L_q$  is an inductance of the q-axis of the motor,

$R$  is an electric resistance of the motor,

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$\omega$  is an angular velocity of a rotor of the motor,

$\Phi$  is a number of magnetic cross fluxes of a permanent magnet of the motor,

$j_d$  is a d-axis state quantity of said controller,


$j_q$  is a q-axis state quantity of said controller, and

$w_d$  is a coefficient - -.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marlon T Fletcher whose telephone number is 571-272-2063. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on 571-272-2107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Marlon T Fletcher  
Primary Examiner  
Art Unit 2837

MTF